

Big Business

Why the Sudden Rise In the Urge to Merge And Form Oligopolies?

Higher Payoffs, a Lowering Of Antitrust Obstacles And Some Burst Bubbles

Consumers Can Win or Lose

Everywhere you look, powerful forces are driving American industries to consolidate into oligopolies—and the obstacles are getting less formidable.

The rewards for getting bigger are growing, particularly in the world of tech-

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nology, media and telecommunications, where fixed costs are especially large and the cost of serving each additional customer is small. Some snapshots:

- Twenty years ago, cable television was dominated by a patchwork of thousands of tiny, family-operated companies. Today, a pending deal would leave three companies in control of nearly two-thirds of the market.

- In 1990, three big publishers of college textbooks accounted for 35% of industry sales. Today they have 62%.

- In 1993, then-Defense Secretary William Perry told executives of more than a dozen big defense contractors that half their companies wouldn't exist in five years. He was right. Today, five titans dominate the industry, and one of them, Northrop Grumman Corp., Friday made a surprise \$5.9 billion bid for TRW Inc., a maker of auto parts, defense and aerospace equipment. The offer includes \$3.5 billion in assumed debt. (Please see related article on page A3.)

- In 1996, when Congress deregulated telecommunications, there were eight Baby Bells. Today there are four, and dozens of small rivals are dead.

- In 1999, more than 10 significant firms offered help-wanted Web sites. Today, three firms dominate.

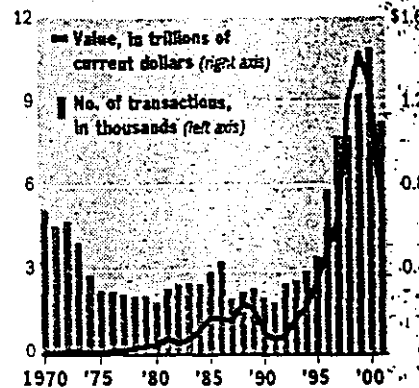
Even as economic forces push these industries toward oligopoly, some of the forces that checked this trend in the 1990s are weakening. U.S. antitrust cops, regulators and judges seem less antagonistic toward bigness. Just last week, a federal appeals court opened the door to another round of media mergers by striking down rules that in effect barred cable companies from buying broadcast networks.

And investors are less eager to finance upstarts who challenge giants. In all, about \$73 billion was raised for enterprises of all sorts through venture-capital financing and initial public offerings last year. That was robust by long-term historical standards, but it was less than half the \$164 billion raised in the peak year of 2000.

The appetite for mergers is restrained by a sagging stock market and recession, but it probably will revive as the economy rebounds. "Even with the economic slow-

Merger Wave

Mergers and acquisitions announced by U.S.-headquartered firms



Source: Commerce Dept., Mergerstat, Council of Economic Advisers

down," President Bush's Council of Economic Advisers noted recently, "merger activity in 2001 was well above average levels during the past three decades."

An oligopoly, a market in which a few sellers offer similar products, isn't always avoidable or undesirable. It can produce efficiencies that allow firms to offer consumers better products at lower prices and lead to industry-wide standards that make life smooth for consumers.

But an oligopoly can allow big businesses to make big profits at the expense of consumers and economic progress. It can destroy the competition that is vital to preventing firms from pushing prices well above costs and to forcing companies to change or die. Rates for cable television, for instance, have soared 36%, almost triple the amount of overall inflation, since the industry was deregulated in 1996 and then consolidated in a few big firms. The Organization of Petroleum Exporting Countries is a classic oligopoly. Members manipulate their control over the supply of oil to force consumers to pay prices well above levels at which market forces would otherwise set them.

"A certain amount of consolidation does generate a certain amount of efficiency and is good for customers," says economist Carl Shapiro, who served in the Clinton Justice Department's anti-trust division and now teaches at the University of California at Berkeley. "That's what economies of scale are about. Particularly in a lot of these industries that

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Why Oligopolies Are on the Rise

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have heavy fixed costs, it's natural to have some consolidation."

"Twenty [competitors] to four is good," Mr. Shapiro says. "It's four to two that is much more dubious."

The rise of early-21st-century oligopolies echoes the late 19th century. "They are both periods where there was a retreat from government oversight of the economy, a tremendous amount of entrepreneurial activity, lots of new technology—and it wasn't clear who would be the winners and losers," says Naomi Lamoreaux, an economic historian at the University of California at Los Angeles. "Firms try to put some bounds on the chaos, to control some markets."

Many industries also face staggering costs. A typical semiconductor-fabrication plant now costs between \$2 billion and \$3 billion, compared with \$1 billion five years ago. A maker of basic memory chips must sell far more chips to justify an investment of that size, which is why makers of dynamic random access memory, or DRAM, chips are so eager to merge. If Micron Technology Inc. succeeds in buying the chip-making assets of South Korea's Hynix Semiconductor Inc., four firms will control 83% of the market, up from 46% in 1995. It cost pharmaceutical companies \$800 million to develop and get approval for a new drug in the last decade, according to Joseph DiMasi of Tufts University's Center for the Study of Drug Development, six times what it cost in the 1970s after adjusting for inflation.

Textbook Case

For a textbook case of the pros and cons of oligopoly, look no further than the industry that produces textbooks. Last year, Thomson Co., No. 2 in the \$3.2 billion-a-year college-text business, bid for the college-book line of Harcourt General Inc., No. 4. Charles James, the Justice Department's assistant attorney general for antitrust, initially objected, warning that competition in certain courses "will be substantially lessened, resulting in students paying higher prices." But the government cleared the deal after Thomson agreed to sell certain titles, from psychology to intermediate Spanish, as well as a testing company.

Today, three big companies—Britain's Pearson PLC, Canada's Thomson, and New York-based McGraw-Hill—dominate the U.S. college-textbook business. The industry says consolidation helps shareholders and students. In a bigger company, says Peter Jovanovich, chief executive of Pearson Education, sales representatives are more specialized and know more about the books they're hawking.

And because publishers must complement their textbook offerings with Internet services, each textbook becomes a more expensive proposition. Publishers post online simulations of chemical bonding, practice tests and ready-to-serve Power Point presentations for professors.

But the textbook industry also shows two big economic risks that consolidation poses for consumers.

The first is rising prices. The best-selling introductory economics textbooks go for

more than \$100 now. The Labor Department's measure of textbook prices that publishers charge bookstores and distributors has climbed 65% over the past 10 years while overall producer prices rose just 11.2%.

The other risk is that the textbook oligopoly, with its profits dependent on hard-backed textbooks and its Web sites primarily intended to help sell books rather than replace them, will stifle innovation. "The odds that somebody will come up with a successful innovation go up with the number of people who are trying new things," says Paul Romer, a Stanford business-school professor. His new company—Aplia Inc. of San Carlos, Calif.—offers online teaching tools that aren't tied to any particular textbook. And the fewer the players, the lower the likelihood that a ground-breaking innovation will be perfected and rolled out quickly.

DSL, or digital subscriber line, the high-speed Internet pathway that relies on normal telephone lines, was developed by a Bell engineer in 1989. It languished for almost a decade because the Bells didn't want to cannibalize another, more lucrative high-speed Internet service for businesses. The Bells began deploying DSL broadly only after upstarts like Covad Communications Co., a Bell rival founded in 1996, quickly proved there was a consumer market for it.

With money flowing in from eager investors, upstarts rolled out new technologies and business models that the Bells had been unwilling or unable to devise. Some newcomers used high-capacity fiber-optic cables instead of old copper phone lines. Others allowed Internet service providers to install equipment at telephone switching centers. But when the capital markets all but stopped funding the Bell rivals two years ago, many innovators disappeared.

Recruiting Turmoil

The pressure to consolidate is evident in the young online recruitment industry. For a while, it looked as if HeadHunter.Net Inc. would be a rare dot-com startup: profitable and independent. Last summer, it showed its first quarter of positive cash flow. A month later, it agreed to be bought by CareerBuilder Inc., itself the product of a merger.

The Web sites face huge marketing costs to attract a critical mass of job seekers and employers, says Craig Stamm, who was chief financial officer of HeadHunter.Net and now has the same post with the merged firm. With enough customers, the added cost of a new one is nearly nil. With too few, he says, "You slow down sales and marketing. Customers go away. There's even less revenue to invest. It's a downward spiral."

In online recruitment, market leader Monster.com was spending heavily on marketing, backed by its deep-pocketed parent, TMP Worldwide Inc. Worried about keeping up, HeadHunter.Net decided to merge with CareerBuilder, which is backed by two newspaper chains. The Federal Trade Commission scrutinized the deal and approved it without comment last November. TMP Worldwide's agreement to buy another competitor, HotJobs Inc., was scuttled, in part because of repeated requests for informa-

tion from the FTC. In the end, Yahoo Inc. bought HotJobs.

All this transformed a market that at the height of the Internet bubble had more than 10 competitors, most routinely offering 50% discounts to lure job postings. Today the market is dominated by three firms, which are more committed to holding the line on prices. (Dow Jones & Co., publisher of this newspaper, operates a recruitment Web site for executives and professionals.)

In other industries the growing strength and size of customers is prompting suppliers to get bigger, too. In eastern Massachusetts, three big organizations came to control 75% of the insurance market, which gave them substantial bargaining power with local hospitals. If a hospital wouldn't offer one health maintenance organization deep discounts, the HMO could easily divert patients to other hospitals that would.

Then the hospitals started to join forces through mergers. The most significant was the December 1993 merger of two of the most prestigious, Massachusetts General Hospital and Brigham & Women's—a combination that created Partners HealthCare System Inc. "In order to increase your leverage in a competitive environment, you need to increase your size," says Richard Averbuch, a spokesman for the Massachusetts Hospital Association. In 1993, metropolitan Boston had 34 separate hospital networks. Today it has 12—and life for patients is already changing.

In the fall of 2000, nearly 200,000 of the 900,000 members of one big HMO, Tufts Health Plan, got letters announcing that they would no longer be able to use hospitals or physicians affiliated with Partners. The reason: Tufts wouldn't accept the fee increases Partners wanted. The uproar was enormous. Without Partners, says James Roosevelt Jr., Tufts general counsel, so many HMO members and their employers "would drop us that we wouldn't have a health network anymore." Even people who never used Partners' doctors wanted the option of going to the top teaching hospitals in town in case of a serious illness. "They would switch their health plan even though that wasn't where they normally went for their medical care." Tufts went back to Partners, and agreed to a fee increase of 30% over three years.

Shifting Power

"The bargaining power in the system has, in fact, shifted back to the providers, indisputably," says John E. McDonough, a health-policy professor at Brandeis University and a former Democratic state legislator. Last month, hospitals say, the Massachusetts attorney general opened an investigation into allegations of anticompetitive activities by the hospitals in connection with physician referral practices. The attorney general's office will neither confirm nor deny the existence of an investigation.

Earlier waves of concentration provoked a government reaction. And since Enron Corp.'s implosion, public hostility to big business has grown. The Bush administration's top antitrust officials insist they intend to be as aggressive as their Clinton predecessors.

Those expecting easier treatment from the Bush FTC appointees will be "disap-

pointed," FTC Chairman Timothy Muris told an American Bar Association forum last summer. Mr. James, the Justice antitrust chief, said much the same at the event.

Indeed, not every merger sails through the Bush administration. But there's no doubt about the change in tone.

The new Economic Report of the President declares that there is "little evidence" the mergers of the 1980s and 1990s "harmed competition." At the FCC, Chairman Michael Powell says he is largely unconcerned about preventing concentration in any one industry as long as cable, old-style telephone, wireless and satellite are all competing to serve consumers.

Such comments are sparking predictions that the Powell FCC will approve Comcast Corp.'s proposed acquisition of AT&T Corp.'s cable arm, which would leave three companies in control of 65% of the cable business. There's also speculation that the FCC might allow a Bell company to buy a long-distance giant like Worldcom Inc. or Sprint Corp., a

combination that would have been unthinkable even two years ago. Last week's appeals-court decision struck down FCC rules barring cable-TV operators from owning broadcast stations in the same market and forces the FCC to reconsider old rules preventing broadcast networks from owning local affiliates that reach more than 35% of the nation.

In the Microsoft case, the most celebrated antitrust action in decades, the Bush administration is widely regarded to be softer than its Clinton predecessors. After a seven-judge federal appeals court upheld the finding that Microsoft Corp. used its monopoly power to protect its Windows product, Mr. James agreed to a settlement that has been criticized as too soft and riddled with loopholes to restore competition.

"To say that it sets a tone for how this administration will be perceived is an understatement," says Robert Lande, a critic of Microsoft and an antitrust specialist at University of Baltimore law school. Even Einer Elhauge, a Harvard law professor and supporter of the Bush administration's antitrust approach, has criticized the settlement, now being reviewed by a federal judge. "The proposed settlement leaves Microsoft free to harm competition at the cost of technological progress in precisely the way it was found to have done so in the past," Mr. Elhauge says.

For much of the 1990s, ebullient stock and bond markets offered a vigorous countervailing force to the oligopolistic tendencies of American business by financing scores of aggressive upstarts. Indeed, Congress was counting on capital flowing into new ventures when it deregulated the telecommunications industry in 1996. Lawmakers envisioned a world in which nimble upstarts, known as "competitive local exchange carriers," would challenge the behemoths controlling local phone markets.

Investors poured tens of billions of dollars into CLECs, wagering that these rivals to the Bell companies would eventually take as much as 50% of the \$112 billion market. XO Communications Inc. raised more than \$258 million in a 1997 IPO, and saw its shares rise 34% above their offering price on the first day of trading. ICG Communications Inc. of Denver raised more than \$2.5 billion from investors like Hicks Muse and Liberty Media Corp., AT&T's media-investment arm, and then had a hugely successful IPO.

In just two years, 1998 and 1999, more than \$50 billion in high-yield telecom bonds were issued, according to Thomson Financial Securities Data. Private equity investors like Hicks, Muse, Tate & Furst, Kohlberg Kravis Roberts & Co. and Bain & Co. invested \$10.3 billion in stakes in telecommunications companies.

By 2000, however, investors had begun to sour on the upstarts, which showed few signs of turning profits anytime soon. Companies that survived are still trying to adjust to the change. "It's really unprecedented. We've gone from full spigot to a situation where every capital source has shut down at the same time," says Randall Curran, chief executive of ICG Communications, which filed for bankruptcy protection in November of 2000. XO now trades at five cents a share.

Consumer groups and many of the upstarts blame the Bells for the CLECs' woes. They accuse the giants of trying to thwart competition by charging unfairly high prices for access to their phone lines, which they're required to share with competitors, or intentionally providing poor service to the upstarts' customers. The Bells say the companies expanded too fast and failed to develop a sustainable business model.

At the end of 2000, there were 330 CLECs challenging the Bells. A year later, there were 150 left.

The Oligopoly Watch

INDUSTRY

Defense contractors



Basic DRAM semiconductor chips



Cable TV



College textbooks



Job recruitment Web sites



Local TV



Pharmaceuticals



Wireless phones



STATE OF MARKET

After a wave of Pentagon-encouraged consolidation, there are five industry titans: Northrop Grumman, Lockheed Martin, Boeing, Raytheon and General Dynamics.

If Micron Technology succeeds in buying the DRAM operations of South Korea's Hynix Semiconductor, the four largest companies would control 83% of the global market, compared with 46% in 1995.

If Comcast-AT&T broadband deal goes through, three companies will control 65%.

Three companies control 61.5%: Pearson (26.7%), Thomson (21.8%), McGraw-Hill (13%).

Three players control 66% of industry revenues. Two years ago, at least 10 players were contenders.

Viacom and Fox each reach 41% of homes already. A pending deal would give NBC 30%.

Three companies have 26.2% of U.S. sales: Pfizer (10.2%), GlaxoSmithKline (8.8%) and Merck (7.2%).

Five companies control 71%: Verizon Wireless (23%), AT&T Wireless (14%), Sprint (10%), Cingular, the joint venture of SBC and BellSouth (17%) and Nextel (7%).

RECENT DEALS

Northrop last week bid \$5.9 billion for TRW, soon after buying Newport News Shipbuilding.

In December Micron agreed to buy U.S. DRAM operations of No. 6 Toshiba. Also, No. 7 Hitachi and No. 5 NEC last year agreed to merge memory-chip operations.

Pending acquisition of AT&T's cable arm by Comcast.

Thomson's \$2.06 billion acquisition last year of several Harcourt business lines, including its college titles.

Yahoo! this year bought HotJobs.com, and CareerBuilder, whose major shareholders are Tribune and Knight Ridder, last year acquired HeadHunter.Net.

Viacom this year agreed to buy KCAL-TV, last independent station in Los Angeles, for \$650 million. General Electric bought Spanish-language Telemundo network and KVEA station in same market last year.

In 2000, Glaxo Wellcome and SmithKline Beecham agreed to merge and Pfizer acquired Warner-Lambert.

Deutsche Telekom bought VoiceStream Wireless last year for \$26 billion.

OUTLOOK

Pentagon likely to oppose further consolidation among the biggest players, but giants may snap up smaller firms. Possible targets: L3 Communications, United Defense.

Consolidation fueled by excess capacity and price slump. Reviving demand and mergers help prices rebound. Some small players likely to be squeezed out as four giants dominate.

More deals likely as companies try to compete with Comcast-AT&T. Court decision striking down rules limiting cable companies' scale makes deals easier.

Several smaller players could get snatched up by one of the big three, but the biggest remaining player, Houghton Mifflin, has 5.2%.

No more consolidation likely among three top players. Several major employers, seeking to broaden their options, recently formed a cooperative site.

Appeals-court decision last week ordering regulators to rethink ownership cap will spark more deals. Likely targets: Belo and Scripps Howard.

Plenty of room for consolidation remains, but some companies find bigger isn't better as sales growth after deals remains poor.

Deals likely as major players take advantage of FCC decision last year increasing amount of spectrum any company can own. Major carriers likely to snap up smaller ones, such as Nextel and Northcoast.

Sources: Simba Information; Legg Mason; Ad Media Partners; IMS Health; Gartner Dataquest; Forrester Research; WSJ research

107TH CONGRESS
1ST SESSION

H. R. 1542

To deregulate the Internet and high speed data services, and for other purposes.

IN THE HOUSE OF REPRESENTATIVES

APRIL 24, 2001

Mr. TAUZIN (for himself, Mr. DINGELL, Mr. GOODLATTE, Mr. BOUCHER, Mr. ENGLISH, Mr. FROST, Mr. SMITH of Washington, Mr. LUCAS of Kentucky, Mr. WHITFIELD, Mr. MURTHA, Mr. COLLINS, Mr. BLAGOJEVICH, Mr. FOSSELLA, Mr. DICKS, Mr. GILLMOR, Mr. BARTON of Texas, Mr. KIND, Mr. GREENWOOD, Mr. MEEKS of New York, Mr. CAMP, Mr. BALDACC, Mr. RAHALL, Mr. HOLDEN, Mrs. MCCARTHY of New York, Mr. BRADY of Pennsylvania, Mr. SIMPSON, Mr. BOYD, Mrs. NORTHUP, Mr. ENGEL, Mr. SANDLIN, Mr. EVERETT, Mr. BOEHNER, Mr. REYNOLDS, Mr. WELDON of Pennsylvania, Mr. SESSIONS, Mr. BONIOR, Mr. MALONEY of Connecticut, Mr. BUYER, Mr. CUNNINGHAM, Mr. MCCREERY, Mr. BISHOP, Mr. LAMPSON, Mr. VITTER, Mr. BASS, Mr. ACKERMAN, Mr. BLUNT, Mr. MCHUGH, Mr. RYAN of Wisconsin, Mr. QUINN, Mr. BACA, Mr. GONZALEZ, Mr. BAKER, Mr. WALSH, Mr. GREEN of Texas, Mr. WEXLER, Mr. OXLEY, Mr. RADANOVICH, Mr. DLAZ-BALART, Mr. COOKSEY, Mr. CLEMENT, Mr. LARSEN of Washington, Mr. SCHROCK, Mr. PETRI, Mr. WATKINS, Ms. ROS-LEHTINEN, Mr. HILLIARD, Mr. OTTER, Mr. SHADEGG, Mr. BRYANT, Mr. PLATTS, Mr. PUTNAM, Mr. CUMMINGS, Mr. RODRIGUEZ, Mr. CONDIT, Mr. BURR of North Carolina, and Mr. WYNN) introduced the following bill; which was referred to the Committee on Energy and Commerce

A BILL

To deregulate the Internet and high speed data services,
and for other purposes.

1 *Be it enacted by the Senate and House of Representa-*
2 *tives of the United States of America in Congress assembled,*

3 **SECTION 1. SHORT TITLE.**

4 This Act may be cited as the “Internet Freedom and
5 Broadband Deployment Act of 2001”.

6 **SEC. 2. FINDINGS AND PURPOSE.**

7 (a) FINDINGS.—Congress finds the following:

8 (1) Internet access services are inherently inter-
9 state and international in nature, and should there-
10 fore not be subject to regulation by the States.

11 (2) The imposition of regulations by the Fed-
12 eral Communications Commission and the States
13 has impeded the rapid delivery of high speed Inter-
14 net access services to the public, thereby reducing
15 consumer choice and welfare.

16 (3) The Telecommunications Act of 1996 rep-
17 resented a careful balance between the need to open
18 up local telecommunications markets to competition
19 and the need to increase competition in the provision
20 of interLATA voice telecommunications services.

21 (4) In enacting the prohibition on Bell oper-
22 ating company provision of interLATA services,
23 Congress recognized that certain telecommunications
24 services have characteristics that render them in-
25 compatible with the prohibition on Bell operating

1 company provision of interLATA services, and ex-
2 empted such services from the interLATA prohibi-
3 tion.

4 (5) High speed data services and Internet ac-
5 cess services constitute unique markets that are like-
6 wise incompatible with the prohibition on Bell oper-
7 ating company provision of interLATA services.

8 (6) Since the enactment of the Telecommuni-
9 cations Act of 1996, the Federal Communications
10 Commission has construed the prohibition on Bell
11 operating company provision of interLATA services
12 in a manner that has impeded the development of
13 advanced telecommunications services, thereby lim-
14 iting consumer choice and welfare.

15 (7) Internet users should have choice among
16 competing Internet service providers.

17 (8) Internet service providers should have the
18 right to interconnect with high speed data networks
19 in order to provide service to Internet users.

20 (b) PURPOSES.—It is therefore the purpose of this
21 Act to provide market incentives for the rapid delivery of
22 advanced telecommunications services—

23 (1) by deregulating high speed data services
24 and Internet access services;

1 (2) by clarifying that the prohibition on Bell op-
2 erating company provision of interLATA services
3 does not extend to the provision of high speed data
4 services and Internet access services;

5 (3) by ensuring that consumers can choose
6 among competing Internet service providers; and

7 (4) by ensuring that Internet service providers
8 can interconnect with competitive high speed data
9 networks in order to provide Internet access service
10 to the public.

11 **SEC. 3. DEFINITIONS**

12 (a) AMENDMENTS.—Section 3 of the Communica-
13 tions Act of 1934 (47 U.S.C. 153) is amended—

14 (1) by redesignating paragraph (20) as para-
15 graph (21);

16 (2) by redesignating paragraphs (21) through
17 (52) as paragraphs (24) through (54), respectively;

18 (3) by inserting after paragraph (19) the fol-
19 lowing new paragraph:

20 “(20) HIGH SPEED DATA SERVICE.—The term
21 ‘high speed data service’ means any service that con-
22 sists of or includes the offering of a capability to
23 transmit, using a packet-switched or successor tech-
24 nology, information at a rate that is generally not

1 less than 384 kilobits per second in at least one di-
2 rection.”;

3 (4) by inserting after paragraph (22) the fol-
4 lowing new paragraphs:

5 “(23) INTERNET.—The term ‘Internet’ means
6 collectively the myriad of computer and tele-
7 communications facilities, including equipment and
8 operating software, which comprise the inter-
9 connected world-wide network of networks that em-
10 ploy the Transmission Control Protocol/Internet
11 Protocol, or any predecessor or successor protocols
12 to such protocol, to communicate information of all
13 kinds by wire or radio.

14 “(24) INTERNET ACCESS SERVICE.—The term
15 ‘Internet access service’ means (A) a service that
16 combines computer processing, information storage,
17 protocol conversion, and routing with transmission
18 to enable users to access Internet content and serv-
19 ices, and (B) the transmission of such service, but
20 does not include the portion of such transmission
21 from the user to the provider of such service.”.

22 (b) CONFORMING AMENDMENTS.—

23 (1) Section 230(f) of the Communications Act
24 of 1934 (47 U.S.C. 230(f)) is amended—

25 (A) by striking paragraph (1); and

1 (B) by redesignating paragraphs (2)
2 through (4) as paragraphs (1) through (3), re-
3 spectively.

4 (2) Section 223(h)(2) of such Act (47 U.S.C.
5 223(h)(2)) is amended by striking “230(f)(2)” and
6 inserting “230(f)(1)”.

7 **SEC. 4. LIMITATION ON AUTHORITY TO REGULATE HIGH**
8 **SPEED DATA SERVICES.**

9 (a) IN GENERAL.—Part I of title II of the Commu-
10 nications Act of 1934 (47 U.S.C. 201 et seq.) is amended
11 by adding at the end the following new section:

12 **“SEC. 232. PROVISION OF HIGH SPEED DATA SERVICES.**

13 “(a) FREEDOM FROM REGULATION.—Except to the
14 extent that high speed data service and Internet access
15 service are expressly referred to in this Act, neither the
16 Commission, nor any State, shall have authority to regu-
17 late the rates, charges, terms, or conditions for, or entry
18 into the provision of, any high speed data service or Inter-
19 net access service, or to regulate the facilities used in the
20 provision of either such service.

21 “(b) SAVINGS PROVISION.—Nothing in this section
22 shall be construed to limit or affect the authority of any
23 State to regulate voice telephone exchange services, nor
24 affect the rights of cable franchise authorities to establish
25 requirements that are otherwise consistent with this Act.

1 “(c) CONTINUED ENFORCEMENT OF ESP EXEMP-
 2 TION, UNIVERSAL SERVICE RULES PERMITTED.—Noth-
 3 ing in this section shall affect the ability of the Commis-
 4 sion to retain or modify—

5 “(1) the exemption from interstate access
 6 charges for enhanced service providers under Part
 7 69 of the Commission’s Rules; or

8 “(2) rules issued pursuant to section 254.”.

9 (b) CONFORMING AMENDMENT.—Section 251 of the
 10 Communications Act of 1934 (47 U.S.C. 251) is amended
 11 by adding at the end thereof the following new subsection:

12 “(j) EXEMPTION.—

13 “(1) IN GENERAL.—Notwithstanding the provi-
 14 sions of subsections (c) and (d), the Commission
 15 shall not require an incumbent local exchange car-
 16 rier to—

17 “(A) provide unbundled access to any net-
 18 work elements used in the provision of any high
 19 speed data service, other than those network
 20 elements described in section 51.319 of the
 21 Commission’s regulations (47 C.F.R. 51.319),
 22 as in effect on January 1, 1999; or

23 “(B) offer for resale at wholesale rates any
 24 high speed data service.

1 “(2) **AUTHORITY TO REDUCE ELEMENTS SUB-**
 2 **JECT TO REQUIREMENT.**—Paragraph (1)(A) shall
 3 not prohibit the Commission from modifying the reg-
 4 ulation referred to in that paragraph to reduce the
 5 number of network elements subject to the
 6 unbundling requirement, or to forbear from enforce-
 7 ing any portion of that regulation in accordance with
 8 the Commission’s authority under section 706 of the
 9 Telecommunications Act of 1996, notwithstanding
 10 any limitation on that authority in section 10 of this
 11 Act.”.

12 **SEC. 5. INTERNET CONSUMERS FREEDOM OF CHOICE.**

13 Part I of title II of the Communications Act of 1934,
 14 as amended by section 4, is amended by adding at the
 15 end the following new section:

16 **“SEC. 233. INTERNET CONSUMERS FREEDOM OF CHOICE.**

17 “(a) **PURPOSE.**—It is the purpose of this section to
 18 ensure that Internet users have freedom of choice of Inter-
 19 net service provider.

20 “(b) **OBLIGATIONS OF INCUMBENT LOCAL EX-**
 21 **CHANGE CARRIERS.**—Each incumbent local exchange car-
 22 rier has the duty to provide—

23 “(1) Internet users with the ability to subscribe
 24 to and have access to any Internet service provider

1 that interconnects with such carrier's high speed
2 data service;

3 “(2) any Internet service provider with the
4 right to acquire the facilities and services necessary
5 to interconnect with such carrier's high speed data
6 service for the provision of Internet access service;
7 and

8 “(3) any Internet service provider with the abil-
9 ity to collocate equipment in accordance with the
10 provisions of section 251, to the extent necessary to
11 achieve the objectives of paragraphs (1) and (2) of
12 this subsection.

13 “(c) DEFINITIONS.—As used in this section—

14 “(1) INTERNET SERVICE PROVIDER.—The term
15 ‘Internet service provider’ means any provider of
16 Internet access service.

17 “(2) INCUMBENT LOCAL EXCHANGE CAR-
18 RIER.—The term ‘incumbent local exchange carrier’
19 has the same meaning as provided in section
20 251(h).”.

1 **SEC. 6. INCIDENTAL INTERLATA PROVISION OF HIGH**
2 **SPEED DATA AND INTERNET ACCESS SERV-**
3 **ICES.**

4 (a) INCIDENTAL INTERLATA SERVICE
5 PERMITTED.—Section 271(g) of the Communications Act
6 of 1934 (47 U.S.C. 271(g)) is amended—

7 (1) by striking “or” at the end of paragraph
8 (5);

9 (2) by striking the period at the end of para-
10 graph (6) and inserting “; or”; and

11 (3) by adding at the end thereof the following
12 new paragraph:

13 “(7) of high speed data service or Internet ac-
14 cess service.”.

15 (b) PROHIBITION ON MARKETING VOICE SERV-
16 ICES.—Section 271 of such Act is amended by adding at
17 the end thereof the following new subsection:

18 “(k) PROHIBITION ON MARKETING VOICE TELE-
19 PHONE SERVICES.—Until the date on which a Bell oper-
20 ating company is authorized to offer interLATA services
21 originating in an in-region State in accordance with the
22 provisions of this section, such Bell operating company of-
23 fering any high speed data service or Internet access serv-
24 ice pursuant to the provisions of paragraph (7) of sub-
25 section (g) may not, in such in-region State market, bill,
26 or collect for interLATA voice telecommunications service

1 obtained by means of the high speed data service or Inter-
2 net access service provided by such company.”.

3 (c) CONFORMING AMENDMENTS.—

4 (1) Section 272(a)(2)(B)(i) of such Act is
5 amended to read as follows:

6 “(i) incidental interLATA services de-
7 scribed in paragraphs (1), (2), (3), (5),
8 (6), and (7) of section 271(g).”.

9 (2) Section 272(a)(2)(C) of such Act is re-
10 pealed.

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Promoting Broadband Investment and Avoiding Monopoly

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Executive Summary

A revitalized telecom sector is critical to the health and vigor of the U.S. economy. The poor performance of the sector for the past two years has been an important component in the current recession just as the boom in telecom and information technology more broadly was a substantial contributor to the preceding period of strong economic growth.

The disappointing growth of broadband may be one factor holding up the return to health of the telecom sector. As long as most consumers continue to connect to the Internet via low bandwidth dial-up connections, much of the perceived promise of the Internet remains unrealized. This in turn dampens demand and reduces incentives to invest in next-generation communication services, Web-based content and applications, and the equipment needed to deliver and take advantage of these. The entire high-tech sector is suffering as a result.

Support is growing for a broadband policy that would promote both expanded investment in broadband infrastructure and wider penetration of broadband access services. As of September 2001, 11 percent of the U.S. population—20 percent of those with Internet

This study was supported by AT&T.

access at home—subscribed to broadband access services.¹ While these penetration statistics reflect impressive growth, they are still far below availability of broadband services. In this paper, we concentrate on the issue of efficient policy for managing the traditional phone companies, the Bells. Despite hopes that the success of the introduction of competition to long distance could be duplicated in local telecom markets, the Bells remain dominant in their local markets. Nonetheless, proposals to relax regulatory constraints on the Bells are under consideration. Proponents of this approach argue that the nondiscrimination and unbundling provisions associated with the Telecom Act of 1996 are deterring investment in broadband infrastructure and harming prospects for the expansion of broadband. Of special note, Congress and policy-makers are once again considering passage of the Tauzin-Dingell bill which would effectively eviscerate the pro-competitive framework adopted by the Act.²

This paper explains how the policy regime established by the Telecom Act could promote competition and efficient growth of broadband and why competition will spur greater investment in telecom infrastructure and complementary assets. In particular, we explain the benefits of the provisions of the Act that promote competition by opening the monopoly facilities of the Bells to use by their rivals. Relaxing the pro-competitive interconnection requirements on the Bells in the current environment would harm the prospects for competition up and down the communication services value chain, and, thus, would discourage investment in broadband infrastructure. Furthermore, relaxing interconnection regulations on the Bells at this time will increase the likelihood of their remonopolization of telecommunications and result in more stringent, costly, and intrusive regulation in the future.

Granting the Bells reduced regulation for broadband services would be a major shift in regulatory policy that would accomplish exactly the opposite of its intended effect: it would increase overall regulation, it would decrease investment, and it would reduce prospects for competition. In all these respects, it would harm consumers. Absent adequate regulatory

¹ See *A Nation On-Line: How Americans are Expanding Their Use of the Internet*, "National Telecommunications and Information Administration, Washington, DC, February 2002.

² For a detailed explanation of why Tauzin-Dingell would be harmful for competition, see Jim Glassman and William Lehr, "The Economics of the Tauzin-Dingell Bill: Theory and Evidence," white paper, June 2001 (available at <http://www.techcentralstation.com/>).

safeguards to assure competition in the Bells' last-mile circuits, consumers would suffer reduced choice, higher prices, and lower quality for broadband services.

1. Introduction

Information technology led the economic boom of the 1990s. Robust competition prevails in most segments of the information technology value chain. Competition has stimulated innovation, investment, and productivity improvements. From chips to software to applications, from equipment for service providers to PCs for consumers, there is robust competition. Telecom is the circulatory system of the modern IT-based economy. Many telecommunication services are actively competitive— from long distance to cellular to wide area data services. But the on-ramps to the information highway remain in the hands of monopolists. The last mile of the telecom network lacks the competition that has invigorated the rest of the network. The last mile remains in the hands of the traditional phone companies, the Bells.

Bell control of the last mile means that continuing regulation is essential. Because homeowners and small businesses rarely have ways to gain access to the telecom network apart from the Bells' last-mile connections, the Bells could extract the full monopoly value of that network if they were not regulated. As competitive service providers add value to telecom products, the Bells would absorb that value through higher prices for the last mile, and consumers would be denied the benefits of the added value.

The Bells are sluggish organizations that have failed to promote the use of their existing wires for broadband. Though the Bells' circuits are in many cases the technically superior way to bring broadband to the home, cable television suppliers have leaped ahead of the Bells in the broadband business. But broadband in general has not reached many homes. Most consumers still connect to the Internet over low-bandwidth dial-up connections that limit their ability to take advantage of many existing and potential uses of the Internet. Further, the Bells presumably would resist Internet-based videophone or even Internet-based standard phone service because it cannibalizes their existing products. Indeed, they have been slow to deploy DSL because of its affect on their ability to sell second lines and alternative high-priced, high-speed services such as T1s to business customers.

The chicken-and-egg effect has inhibited the development of broadband. Because the Bells have not promoted broadband connections effectively nor permitted others to promote connections over Bell wires, there are relatively few customers for broadband products. With few potential customers, developers and sellers of products have held back. Movie downloads are just beginning to appear. The recent proliferation of DVDs at \$9.99 retail makes it clear how large this market could be—the price for the same movie as a download could be \$5 and generate as much profit for the movie owners. In videophone, the chicken-and-egg problem is particularly severe—nobody wants to buy the service until many others have it.

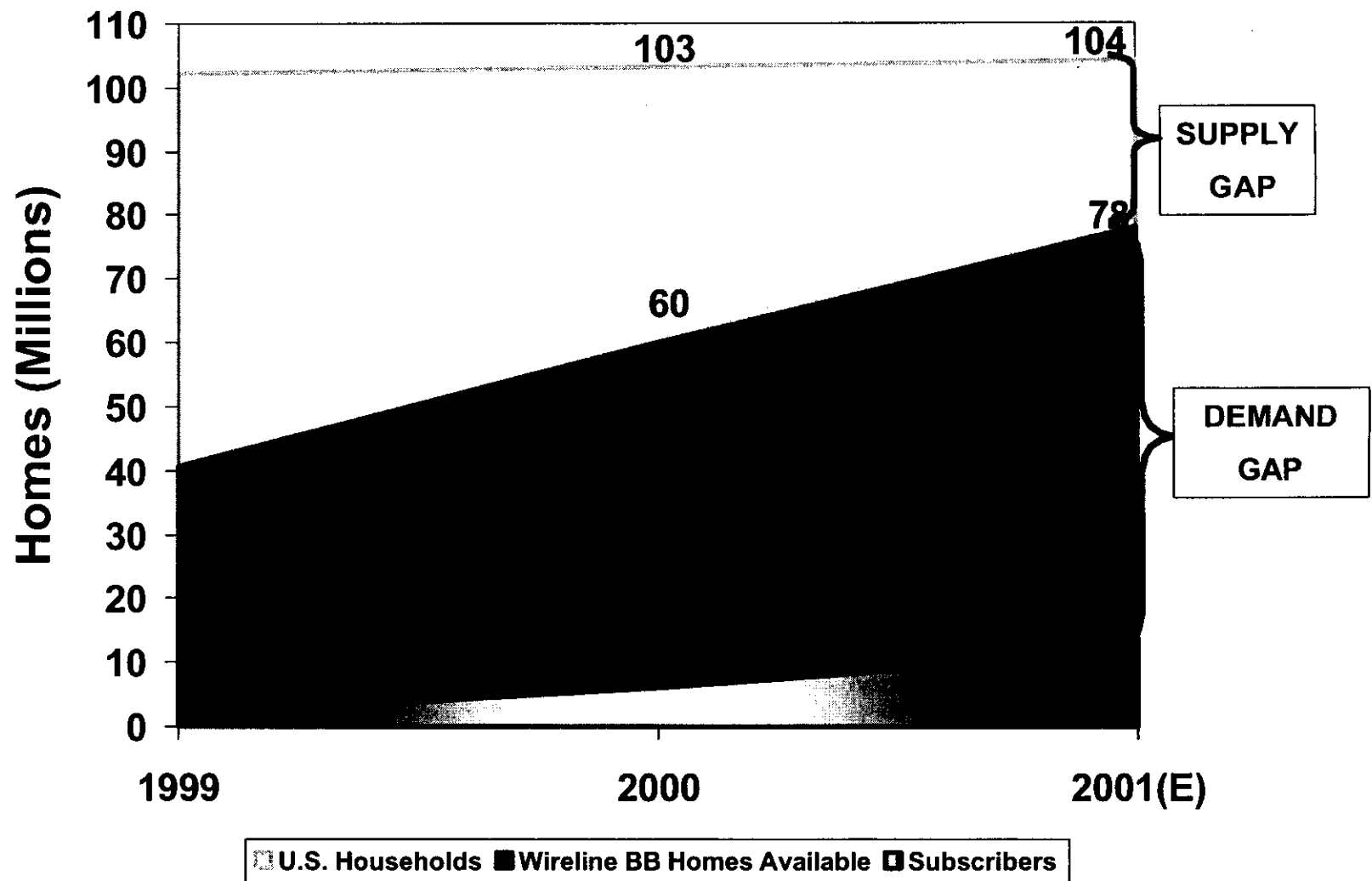
Broadband services are available to over 75 percent³ of the U.S. population (see Exhibit 1), yet broadband penetration in the U.S. falls far behind the leader, Korea.

Existing wires to homes are only a transitional solution to providing widespread broadband service. Ultimately each home will desire more bandwidth that requires new technology based on a hybrid of fiber optics and existing wires. The technology to do this exists, but providing it more broadly will require substantial new investment. To go much beyond the current generation of 1 Mbps broadband services, service providers will have to install substantial additional fiber optic capacity and advanced electronics in local access networks.

Planning for the future requires close attention to the role of competition. It appears likely to be inefficient for competing suppliers to entirely duplicate fiber last-mile networks. If each home should have only one all-fiber broadband circuit, then suppliers of other services, such as local and long-distance transport and Internet services and products, should compete to use the single pipe to the home. Even in the local network, regardless of the last-mile fiber economics, competition is the right model for local switches, backhaul facilities, and additional equipment such as web servers, DSLAMs, or other equipment specifically intended to support broadband services. And it goes without saying that competition should

³ As of June 2001, 76% of the population lived in zip codes that were served by at least one broadband service provider (see page 4, *High-Speed Service for Internet Access as of June 30, 2001*, Industrial Analysis Division, Federal Communications Commission, February 2002). Because of local infrastructure quality issues and because of the distance that some households are from the broadband serving office, this estimate likely overstates actual availability.

Exhibit 1: Supply Exceeds Demand (Yankee Group)



Sources: US Census Bureau; Yankee Group, E-Networks & Broadband Access, Sept. 2001

remain where it is flourishing already, in medium and long-distance transport and in Internet services and products.

The Telecom Act of 1996 established a regime to harness competition wherever it is efficient in the telecom network. The Act recognized the importance in that regime of the monopoly last-mile wires of the Bells and required the Bells to make those wires available to their rivals.

Experience since the passage of the Telecom Act shows that there can be no doubt that the Bells' rivals are willing to invest in local facilities. Consider AT&T: since 1999, the company has invested over \$4.5 billion in creating the infrastructure to provide local services. This investment has helped build new facilities that include 118 local switches, 80 collocation sites that have been upgraded with DSLAMs and new electronics to make them DSL-ready, and 17 thousand route miles of new fiber supporting 6,657 SONET rings.⁴ Moreover, since 1996, new carriers other than the Bells and established long-distance carriers invested \$56 billion in creating local infrastructure.⁵ During this same period, the Bells also invested heavily. Their cumulative investment was \$100 billion which was 22 percent higher than their investment during the four years preceding passage of the Act,⁶ or, industry investment was 90 percent higher than during the preceding period.⁷ These figures provide compelling evidence that the unbundling provisions of the Telecom Act encouraged substantial new investment in local infrastructure by both new carriers *and* the Bells.

The Telecom Act did not promise competition in the last mile. Rather, its regime involves competition where efficient and intelligent use of the Bells' last-mile monopoly wires at regulated rates otherwise. Duplication of local wires does not make sense when it would be uneconomic. The Bell infrastructure is immense, cumulating to \$333 billion of historical

⁴ From AT&T internal sources.

⁵ Cumulative CLEC investment from 1997 through 2000 was \$55.9 billion, as reported in *The State of Local Competition 2001*, Association for Local Telecommunication Services (ALTS), February 2001.

⁶ The Bells invested \$82 billion from 1992-1995 and \$100 billion from 1997-2000. BOC data for 1992-1999 is from Figure 10 in *Telecommunications @ the Millenium*, Federal Communications Commission, February 8, 2000; data for 2000 is from Table 2.7 in *Statistics of Communications Common Carriers 2000/2001*, Federal Communications Commission, September 1, 2001.

⁷ CLEC investment was negligible before 1997 so total industry investment in local infrastructure was approximately \$82 billion (see note 6) from 1992-1995. From 1997-2000, CLEC investment was \$56 billion (see note 5) and BOC investment was \$100 billion (see note 6). Therefore, total investment increased 90% ($=156/82 - 1$).

investment at the end of 2000.⁸ This legacy investment should not be duplicated—rather, technically more advanced circuits should replace it over time. These circuits will almost certainly be monopolies too. Only in quite dense and high demand locales does it make sense for a competitor to invest in duplicate last-mile circuits.

For the foreseeable future—well into the era when homes will have new advanced connections to the broadband network—policy will need to pay close attention to the role of the last mile. As long as the Bells retain control over most of the last mile, there will be a continuing need to assure non-discriminatory access by other carriers to the Bells' last-mile circuits. Assuring such access will protect competition and incentives to invest and innovate elsewhere along the IT value chain.

Today, the Bells remain unique in owning the only ubiquitous network providing telephone and access services in their local serving areas. These networks were constructed under government-sanctioned monopoly franchises over the past century, and represent hundreds of billions of dollars of investment financed by rate payers. Getting to the next generation of networks will require billions of dollars of additional investment. Moreover, the new broadband infrastructure and services will not replace the current generation of narrowband infrastructure and services overnight. The new infrastructure will be added incrementally and will be closely integrated with the legacy infrastructure in order to continue to provide the voice services used by over 140 million customers today. Consumers will migrate over time, although the pace of migration may be quite rapid in comparison to our experience with past technology transitions such as from the telegraph to the telephone or from black and white to color TV.

Telecom policy today is at a decision point about the future roles of the Bells. Since the breakup of the old Bell system in 1984, the thrust of policy has been to extend the arenas where competition rather than regulation governed the market. The introduction of competition to long distance was a stunning success. The opening of local toll markets to competition over the past decade was another step forward for the competitive model. The Telecom Act was an ambitious extension of this philosophy—it hoped to bring many new

⁸ Total BOC telecommunications plant in service at the end of 2000 was \$333 billion (see Table 2.7 in *Statistics of Communications Common Carriers 2000/2001*, Federal Communications Commission, September 1, 2001).

competitors into the telecom business by requiring the Bells to permit these competitors to use the Bells' last-mile and other facilities. Telecom policy from 1984 through the Telecom Act sought to restrain the Bells in certain carefully considered ways to create an environment for competition. Some observers favor the continuation of this regime, with restraints altered as appropriate as conditions change. Others propose to eliminate the restraints so that the Bells can become bigger players. A particular driving force of the latter view is that the Bells would propagate broadband more energetically if freed from the restraints of existing policy.

We believe firmly in continuation of policies that focus on stimulus to competition through efficient restraints on the Bells. In particular, we believe that policy today should follow a path that will lead, eventually, to a regime where most homes have advanced broadband connections providing a wide variety of services offered by vigorously competitive sellers, and where no regulation of the system, even at the local level, is needed. We believe that the removal of restraints on the Bells today would move policy away from this long-term goal. Enlarging the roles of the Bells would require evolution toward more, rather than less, regulation.

II. Bottleneck Facilities, Unbundling, and Investment

Six years ago, Congress passed the Telecom Act of 1996 to harness the power of competition. Recognizing that the Bells' last-mile circuits could remain as monopolies, the Act sought to assure non-discriminatory equal access to those circuits and other local facilities through unbundling and other network interconnection requirements. The Act required the Bells to make their existing network infrastructure available to competitors on terms set by regulators to offset monopoly power. Before the Act, except in specialized circumstances, it was simply uneconomic to attempt competing with the entrenched Bells, already in possession of ubiquitous networks that provided scale and scope economies and positive network externalities unavailable to others. If successfully implemented, the Act would have allowed competitors to share in those efficiencies and to bring the discipline of competition to local markets to the fullest extent possible.

Not surprisingly, the Bells have resisted the interconnection mandates of the Act since its passage. The Bells have sought to delay implementation of the Act at every juncture. The

latest attack on the Act invokes broadband investment. The Bells argue that investments needed to deliver next-generation services will not occur unless the Bells are granted further regulatory relief. The Bells' own investment behavior tells a rather different story. The Act's promise of access to Bell facilities attracted an influx of rivals in local service, both established long-distance carriers and new companies. As these rivals invested, the Bells *increased* their own investments. Further, the Bells invested in DSL service and promoted it. DSL services grew quite rapidly—as a result of investments and promotion by both the rivals and the Bells. The investments included subsidizing DSL modems and installation, as well as significant marketing costs. Recent disappointments in DSL are the result of the collapse of many of the new rivals, the subsequently higher prices charged by Bells once they no longer face competition, and because of the poor quality of service offered by the Bells which may have turned many would-be consumers away.⁹

The evidence supports the view that competition spurs Bell investment. Nonetheless, the Bells are challenging the provisions of the Telecom Act that make competition possible. The Bells argue that making their facilities available to rivals at regulated prices inhibits their investment incentives. In particular, they now propose that their broadband investments be exempt from the unbundling provisions of the Act and that regulators abstain from regulating broadband services in the future. The Bells have sought to push their agenda for removing the pro-competitive features of the Act by their support for legislation such as the Tauzin-Dingell bill, in filings before the FCC, and in appeals to the Executive Branch for an exclusionary broadband policy.

Removing the pro-competitive provisions of the Act with respect to broadband would dampen all carriers' incentives for investment in broadband facilities. In most locations, it is neither profitable nor economically efficient to build new circuits to homes at this time. Current investments should be based, primarily, on effective use of existing last-mile facilities—the Bells' loops and the cable companies' coaxial circuits. In this setting, competitors will invest only if rivals have access to the existing loops and the Bells are restrained from extracting the full monopoly value of those loops. Absent the spur of

⁹ The first author has attempted to sign up for DSL in Menlo Park, California, in a number of ways, all unsuccessful. Indeed, even the link on Pacific Bell's web page for residential DSL to check for availability was not working for several months (<http://www.pacbell.com/DSL/1,5294,00.html>).

competition, the Bells will reduce their own investment commitments to avoid cannibalizing lucrative revenues from leased line and other data services to businesses and second lines to consumers.

Current policymaking needs to consider the implications of today's decisions for the future. If the policy regime adopted today excludes rivalry in broadband service over the Bells' last-mile facilities, the Bells will become the single entrenched provider of broadband service over the existing copper and hybrid fiber/copper loops; the only rivals in broadband will be cable companies. Thus broadband will have only two sellers, and a duopoly with a Bell and a cable provider may fail to offer vibrant competition. Either broadband customers will pay high prices or regulation will need to be extended to broadband services. While the Bells would undoubtedly prefer the more profitable option of remaining an unregulated monopolist, they have ample experience operating quite successfully under regulation, too. If it is necessary to reinstate monopoly regulation, it likely will be in a more complex environment in which it will be harder to draw clear industry and service boundaries, and hence, more difficult to regulate effectively. It is hard to imagine that consumers would achieve anywhere close to their maximum potential from broadband.

By contrast, the framework embodied in the Act encourages investment by both new companies *and* the Bells. We cited evidence supporting this point earlier: Bell and rival investment both increased substantially following passage of the Act. The Bells responded to the increased threat of competition by accelerating their own investments to assure that the newer plant being installed by the rivals did not place the Bells at a competitive disadvantage. This is a normal response to rivalry.

Mandatory access to last-mile circuits and other services, at appropriate rates, encourages investment all along the value chain. It encourages investment both upstream and downstream of the bottleneck because it assures all competitors that they will be able to purchase an essential input. The value of complementary investments upstream—Internet infrastructure and broadband content—and downstream—home networking and equipment—of the local access bottleneck is diminished by the threat of monopoly power over the bottleneck. It is monopoly power over the bottleneck that reduces incentives to invest.

As with many other infrastructure industries in which interconnection regulations are applicable, incumbents continue to invest as long as regulators set prices appropriately. And, there is no presumptive reason to believe that telecom regulators have or would set interconnection prices that are inconsistent with continued investment. Certainly, the experience of rate setting both before and since passage of the Telecom Act refutes the view that regulators deny incumbents a fair opportunity to recover their economic costs. Moreover, the sustained high market valuations of the incumbents since divestiture and even through the current slump in the sector provide potent evidence that investors do not believe that regulators deny incumbents a fair return.

In the context of a network industry, interconnection regulations can also encourage investment in the alternative facilities that can help eliminate many of the sources of the local access bottleneck that gave rise to the regulations in the first place. The unbundling provisions of the Telecom were intended to facilitate modular and incremental entry into local services. Initially, new entrants had no local access facilities and so they needed unbundled access to all of the components of the local network. Unbundling rules reduced economic entry barriers to competitive providers.

Unbundling allows entrants to mix and match leased components from the Bell with whatever facilities the entrant has already put in place to deliver end-to-end retail services. Without access to the complete complement of components, investments in portions of the local access network make no sense. Additionally, building out a network takes time and unbundled access provides the entrant with the means of offering retail services to the entire market, thereby allowing the entrant to invest efficiently in creating a brand image and in retail marketing. Even entrants that do not invest in their own network facilities but continue to lease everything from the Bell will make substantial retail investments. Pure reseller competition can play an important role in overall market competition as the long distance industry demonstrates.

If priced at long run incremental cost, the availability of unbundled network access provides efficient investment incentives to both entrants and the Bells. The entrants will lease facilities from the Bell when that is more efficient (that is, when constructing duplicate facilities would result in higher average total costs) and will invest in their own facilities when that is

warranted. If unbundled access is priced too high, then entrants are, in most cases, deterred from investing at all, or when they do invest, from over-investing in their own facilities. Indeed, if there were a competitive wholesale market in the various elements that comprise a local access network, we should expect to see the prices of these elements approaching the same price as the appropriate regulated price. By contrast, in the absence of unbundled access at a regulated price, the Bell would have an incentive to set the price significantly above the economic cost in order to extract monopoly profits from competitors, or even more likely, to deny access altogether, thereby effectively eliminating the threat of competition.

An extensive cross-national study by the OECD commented that:

Policies such as unbundling of local loops and line sharing are key regulatory tools available to create the right incentives for new investment in broadband access. The evidence indicates that opening access networks, and network elements, to competitive forces increases investment and the pace of development...¹⁰

The OECD study provides further confirmation that bottleneck access regulations have beneficial effects in both the U.S. and other countries that have employed such policies. If unbundling rules deterred investment, then how could one explain that startup local carriers were willing to invest 64 percent of their revenue in local access services (compared to 21 percent for the Bells)?¹¹

If sufficient facilities-based investment does occur under the unbundling rules, then competitive sources of wholesale supply for some of the components of local access networks may develop. As this occurs, unbundling requirements for those elements may be safely relaxed without fear that such deregulation will injure consumers or deter additional investment.

¹⁰ See *The Development of Broadband Access in OECD Countries*, Directorate for Science, Technology and Industry, Organization for Economic Cooperation and Development (OECD), DSTI/ICCP/TISP(2001)2/Final, October 29, 2001, page 4.

¹¹ Data for CLECs is from ALTS Report (note 5) and data for the Bells is from the *Statistics of Communication Common Carriers 2000/2001* (note 6).

III. New Rules for New Wires?

The Bells have argued that investment in broadband facilities distinct from telephone service should not be subject to the unbundling provisions of the Telecom Act. At one level, this argument is sound, if the investment is wholly new and all competitors have an equal opportunity to take advantage of the new technologies and market opportunities they make possible. If a Bell wanted to enter the breakfast cereal business, there would be no need for unbundling provisions on its activities in that business.

Broadband is not breakfast cereal. Nearly all of the proposed broadband investments by the Bells represent incremental upgrades to the existing infrastructure. These investments are fully integrated with the Bell business plans and operations, and are closely coupled to the existing investment in the Bells' local networks. The Bells have been anticipating migrating to broadband networks for decades and have been putting the necessary investments in place since well before the passage of the Telecom Act. The conversion from analog to digital, investments in fiber optic cables, and the addition of packet switching technology have all been undertaken as part of the Bells' programs for upgrading their networks. At each stage, the choice of particular investments takes account of the existing infrastructure. This is economically efficient and sensible, but it also means that it is difficult to draw a clear boundary between what constitutes investments in new infrastructure rather than standard infrastructure. The whole vision is to migrate to a broadband platform that is capable of supporting integrated services.

SBC's Project Pronto is a good example. When SBC originally announced its investment in the project, the company argued convincingly that the investment was wholly justified in terms of expected savings in operating costs on current services and savings on future facilities expansion. Project Pronto made sense even if expected revenues from new services is ignored.¹²

¹² See "SBC Announces Sweeping Broadband Initiative," SBC Investor Briefing, No. 211, October 18, 1999, page 2.

In an earlier paper, we pointed out the constructive role that structural separation of the Bells could play.¹³ The idea is to separate a Bell into independent wholesale and retail companies. The wholesale company would own the last-mile circuits and certain other local network infrastructure. Its customers would include the retail Bell along with all other carriers that chose to compete in providing telecom services. The wholesale Bell would treat all of its customers equally, because it would not be affiliated with any provider of retail services. Structural separation at the local level would bring the same benefits to local service that structural separation of long distance from local phone service brought after 1984.

In broadband, the provision of advanced connections to homes would be the responsibility of the wholesale Bell. As long as competition in advanced last-mile facilities remained weak (which we believe would be true unless new wireless technologies coupled with substantial new allocations of spectrum to broadband became available), the wholesale Bell would remain regulated. Broadband service itself— whether provided by the retail Bell or one of its rivals— would be unregulated.

The structural separation model makes it clear where the potential monopoly power resides and how to achieve the minimum amount of regulation needed for efficient economic performance. It also makes it clear that deregulation of the broadband activities of the regulated Bells is a poor idea.

Preferential regulatory treatment of the Bells' broadband operations also cannot be justified on the basis that they face adequate competition already. It is true that the Bells account for less than half of current broadband subscribers. Cable modem services have a larger share of current residential broadband services, but this does not lead to the conclusion that the Bells lack substantial market power with regard to these services. The Bells control the copper loops that are an essential input for the provision of DSL services and the Bells are the largest providers of DSL-based broadband services. We have noted earlier that cable operators, as half a duopoly structure could not be expected to be vigorous broadband rivals. Further, a competitive analysis of broadband needs to consider the total local access market for data services which remains dominated by Bell-provided leased line and other

¹³ See Robert Hall and William Lehr, *Rescuing Competition to Stimulate Economic Growth*, white paper, September 2001.

data services. Indeed, it was the growth of cable modem competition and competition from entrants offering DSL services over Bell facilities that spurred the Bells to accelerate their own deployment of DSL services. The Bells were influenced by a desire to protect their substantial data service revenues from competitors—a threat of a combination of competitive facilities investment and regulatory-mandated interconnection to the Bells' networks.

Broadband represents the future of local infrastructure. Deregulating prospective broadband investment assures the sunset of open access provisions of the Telecom Act. If granted, the Bells may be able to classify nearly all of its investment opportunistically as intended for broadband data services to avoid pro-competitive unbundling and interconnection obligations. In a converged network, voice can be carried as data (Voice-over-IP services) raising the possibility that even facilities used for legacy services would avoid unbundling obligations. As increasing portions of the network become "broadband"—and hence unregulated—it will become increasingly difficult to implement unbundling and interconnection rules for the rest of the Bells' local access network.

Therefore, the market power that the Bells retain by virtue of their ownership of their legacy network is closely linked to their proposed investments in broadband and removal of pro-competitive restraints on the Bells will perpetuate their monopoly power over next-generation networks.

IV. Relaxed Regulatory Treatment for the Bells' Broadband Investment Would Increase Regulatory Uncertainty

The prospects for significant facilities-based competition are, at best, uncertain. Today, most homes are served by two facilities-based providers: the telephone company and the cable television company. With suitable upgrades, both types of networks can offer a similar range of services—at least in principle. In the future, there is hope that power line companies may upgrade their networks to support communication services or that over-builders will construct new local networks. There is also hope that some subset of the myriad wireless technologies under development may provide viable broadband local access services eventually. However, this is certainly not the case today. Indeed, during the latter half of 2001, a number of companies offering innovative wireless services either went bankrupt

(Metricom and Mobilstar) or scaled back their investments in wireless alternatives to local loops (Sprint and AT&T).

If we are lucky enough in the future to find this facilities-based competition sufficiently robust to eliminate any threat of substantial market power over last mile services, then we won't need to worry about mandating unbundling and interconnection. While this would be the best case, it is not clear that it is the most likely case. If the technology of choice for next generation access networks turns out to be fiber-to-the-home, it will almost certainly be a single-circuit natural monopoly in most local markets. Alternatively, even if both the telephone and cable TV provider survive to offer competing access in many locations, we cannot be certain at this time that the resulting duopoly competition would be suitably vigorous to obviate the need for regulatory oversight and some form of interconnection rules. The cable and telecom networks have quite different legacy networks and regulatory histories so that regulatory policy towards the two types of infrastructure ought to be distinct, at least for the time being.

There is still too much uncertainty regarding the demand for broadband-enabled services and regarding the technology for providing local access to know whether robust facilities-based competition will be viable. This uncertainty makes it premature to eliminate interconnection and unbundling regulation for future broadband services.

Although much about the future of telecommunications infrastructure is uncertain, there are a number of factors that can predictably influence future outcomes. Inappropriate regulatory policies can stifle incentives to invest. For example, regulatory policies that set the prices for interconnection below economic costs will deny firms an opportunity to earn a fair return on their investment. Under such circumstances, firms will not invest. The Telecom Act does not instruct regulators to set rates below cost, and no one has demonstrated that any of these regulated rates is below cost.

Uncertainty about regulatory policy can also dampen investment incentives. Uncertainty is especially perverse because it increases the costs of investments by both incumbents and entrants. For this reason, consistency in regulatory policy is desirable. In the context of the present debate, this would argue in favor of staying the course adopted by the Telecom Act. Repealing interconnection requirements on the Bells represents a radical change in policy

that would dampen investors' interest in telecom. Furthermore, because it is not possible to readily segregate Bell investments into broadband and legacy infrastructure, relaxing regulatory requirements on broadband will critically weaken the unbundling provisions of the Act.

Therefore, relaxing prematurely regulatory rules on the Bells, especially with respect to their investments in broadband, would increase regulatory uncertainty and therefore would reduce incentives to invest in the infrastructure that such a policy would be intended to promote. Rather, it is maintaining the policy of unbundling that will foster investment.

V. Conclusions

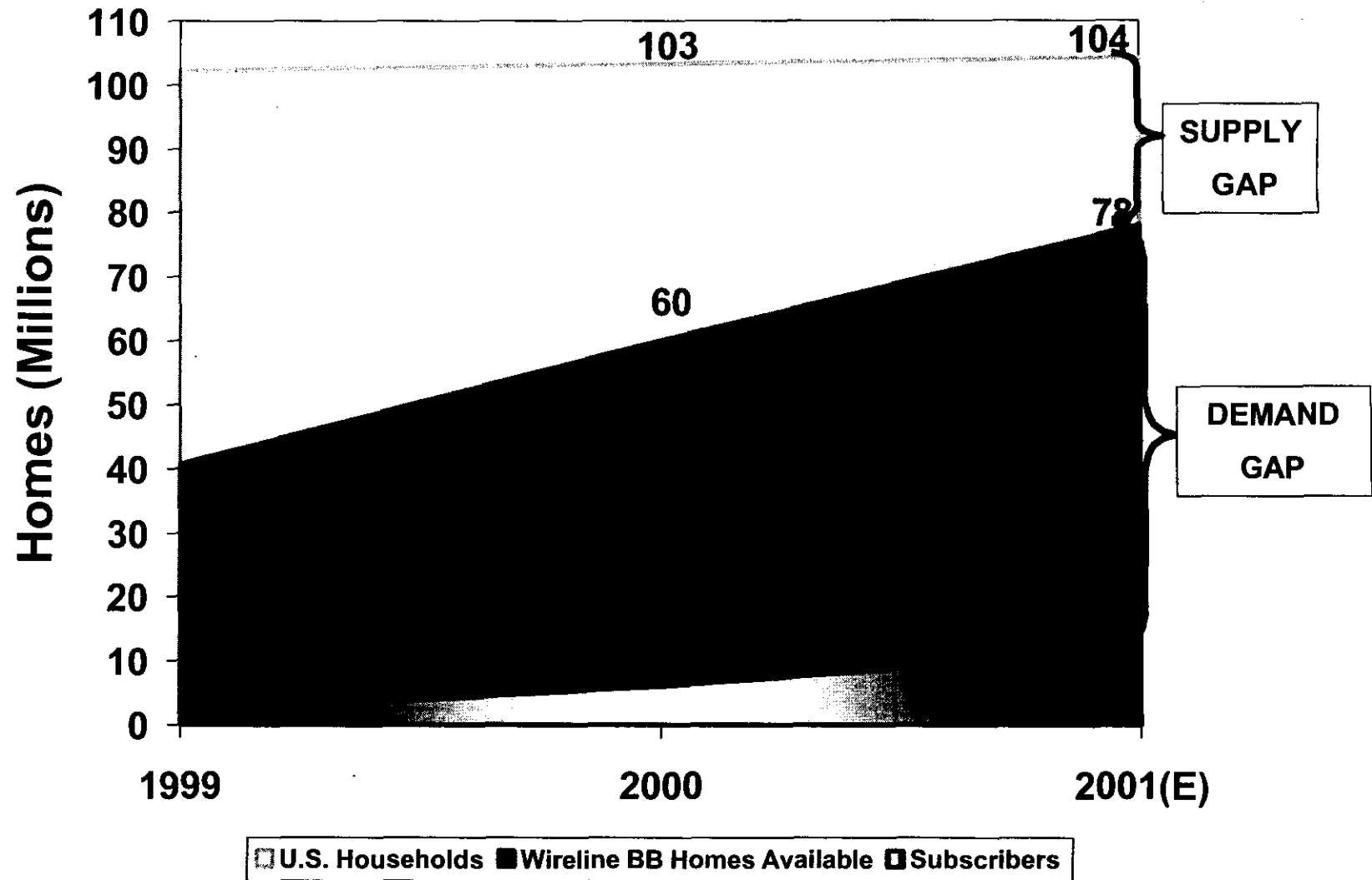
Since the passage of the Telecom Act, the Bells have grown stronger through monopoly-preserving mergers and through the collapse of much of their nascent local competition. While entrants were investing heavily to get a toehold in local markets, the Bells were merging. The mergers allowed the Bells to eliminate a major source of potential facilities-based competition while at the same time expanding the geographic scope over which their market power could be coordinated and exploited. Meanwhile, the slower-than-anticipated implementation of the Act, the resistance of the Bells, and other factors resulted in the drying up of financial capital available to the CLEC industry. Without access to additional funding, many telecom startups were forced into bankruptcy.

Broadband in the United States is less widely used than in the leading countries, such as Korea. Consumers are not clamoring for broadband service because relatively few products and services are available on the Internet that make good use of high bandwidth. The short-term problem with broadband is not a lack of Bell investment, but a lack of effective competition. The Bells have been able to raise prices for broadband services in recent months, while at the same time, providing poor service. The solution is not to fence off the Bells from competition. Rather, the competitive model of the Telecom Act provides the right solution at this time. Longer-term, we do have a pressing need to achieve the economically efficient level of investment in next-generation broadband facilities. Incentives to invest will be influenced by prospects for future industry structure and regulatory uncertainty. If the Bells retain control of the technically most efficient facilities without a requirement to share those facilities with other suppliers, and if they are unregulated, they

will set high prices, serve relatively few customers at those high prices, and make relatively low investments. If, on the other hand, last-mile access is available, at prices close to cost, to many competing suppliers of broadband services, those services will be priced efficiently, demand will be high, and investment correspondingly high.

Therefore, both in the short term and longer term, prospects for investment in broadband infrastructure and services are best served if we retain the pro-competitive provisions of the Telecom Act with respect to the Bells. The appropriate time to relax unbundling requirements for specific components or services is when numerous substitute sources of supply other than the Bells become generally available. The circumstances when this condition might be met are likely to differ depending on the network element or service under consideration and on local competitive conditions. Telecom policy needs to deal with the distinct possibility that the broadband service of the future will arrive at the home over a fiber circuit with a substantial bandwidth advantage over any wireless alternative. In that case, all of the problems connected with the Bells' control of the existing copper circuit will remain. Policy should ensure a smooth path to efficient management of a potentially continuing monopoly in the last mile of the telecom network.

Exhibit 1: Supply Exceeds Demand (Yankee Group)



Sources: US Census Bureau; Yankee Group, E-Networks & Broadband Access, Sept. 2001